

Introduction

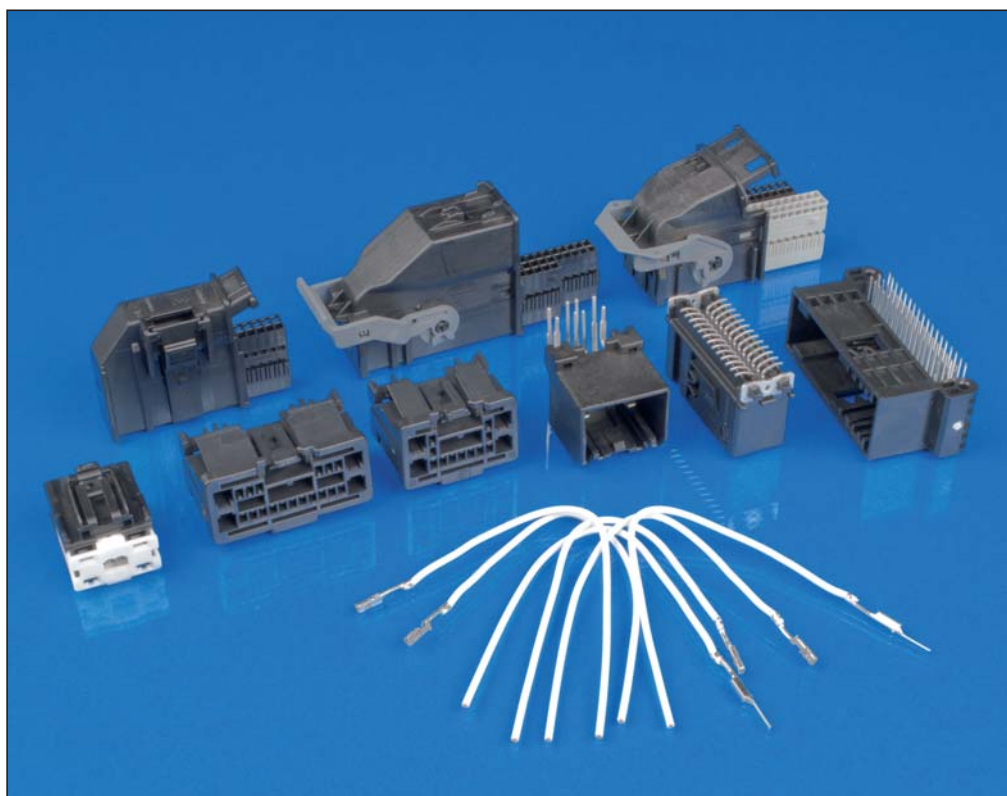


Product Highlights

- Generation Y offers a low engagement force 0.64 mm terminal system
- Sealed and unsealed; wire-to-wire, wire-to-board; wire-to-device; hand mate and lever assist
- Compact design and packaging to reduce complexity and cost

Automotive Applications

- Unsealed wire-to-device for power lift gate modules, junction box and instrument panel
- Sealed connectors for rear camera application and smart window motor
- Unsealed wire-to-board used for power inverters, multi-media modules, climate control modules
- Lever assist connectors for use in multi-media modules, body control and smart junction box modules



Features

- Sealed and unsealed connectors for use in cabin or engine applications
- Low engagement force contact allows higher pin count with hand mate while meeting requirements of USCAR-25
- 2.2 mm centerline pitch capable to allow greater density to reduce PCB costs
- 0.64 mm/2.8 mm hybrid connectors provide power and signal in one package to reduce complexity and cost
- Off-the-shelf or application specific designs available
- Header materials available for IR resistance and lead-free solder processing
- One piece hinge-lock plug housing provides independent secondary locking of female terminal
- Header designs available with thru-hole solder tails, surface mount tabs or press fit compliant pin terminals
- Header designs available in vertical or right-angle; with or without boardlocks
- Sealed and unsealed connectors exceed performance requirements of USCAR-2, -20, -21 and -25 connector design and ergonomic standards

USCAR is a trademark of United States Council for Automotive Research.

Receptacle Contacts (Sealed and Unsealed Applications)

Technical Features

Terminal Bend Strength:

4 N load

Maximum Current Rating:

10.5 amps – 18 AWG,
30°C T-rise free air

Temperature Classification (per USCAR):

–40° to +100 °C (tin)
–40° to +150 °C (silver)

Vibration (per USCAR):

Body Vibration (tin)
Engine Vibration (silver)

Voltage Drop (Initial Interface):

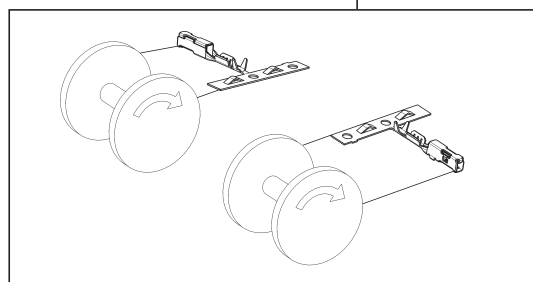
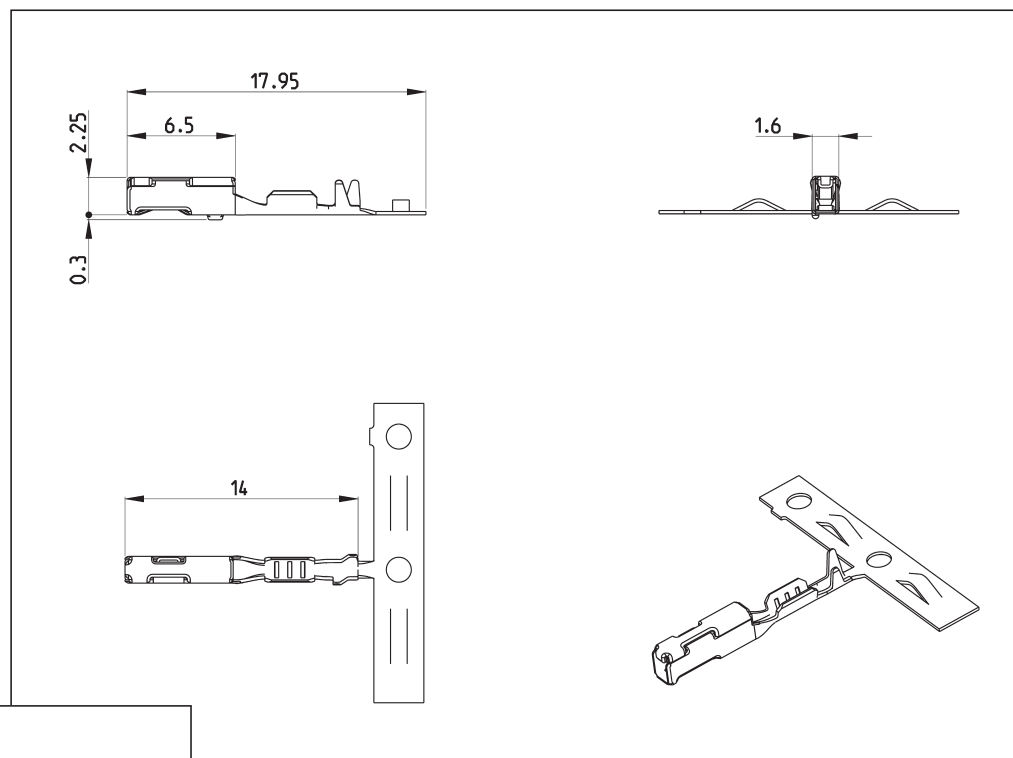
20 Milliohms maximum

Product Specification:

108-2296 (tin only)

Application Specification:

114-13183



Bottom Orientation

Wire Size Range		Wire Insulation Diameter (mm)	Base Finish	Material	Part Number Receptacle Contact	Reeling Direction
(mm ²)	(AWG)					
0.13	26	0.85–1.05	Pre-Tin	Phosphor Bronze	2035334-5	Detail A
			Silver	CuNiSi	1456968-5	
0.22–0.35	24–22	1.10–1.40	Pre-Tin	Phosphor Bronze	2035334-6	
			Silver	CuNiSi	1456968-6	
0.35–0.50	20–22	1.50–1.85	Pre-Tin	Phosphor Bronze	2035334-1	
			Silver	CuNiSi	1456968-1	
0.75	18	1.60–2.06	Pre-Tin	Phosphor Bronze	2035334-2	Detail B*
			Silver	CuNiSi	1456968-2	
0.13	26	0.85–1.05	Pre-Tin	Phosphor Bronze	2035334-7	
			Silver	CuNiSi	1456968-7	
0.22–0.35	24–22	1.10–1.40	Pre-Tin	Phosphor Bronze	2035334-8	
			Silver	CuNiSi	1456968-8	
0.35–0.50	20–22	1.50–1.85	Pre-Tin	Phosphor Bronze	2035334-3	
			Silver	CuNiSi	1456968-3	
0.75	18	1.60–2.06	Pre-Tin	Phosphor Bronze	2035334-4	
			Silver	CuNiSi	1456968-4	

*) Reeled for Tyco Electronics brand applicators.

Note: All Part Numbers are RoHS and ELV compliant.

Receptacle Contacts (Unsealed Applications Only)

Technical Features

Terminal Bend Strength:

4 N load

Maximum Current Rating:

10.5 amps – 18 AWG,
30 °C T-rise free air

Temperature Classification (per USCAR):

–40° to +100 °C (tin)

Vibration (per USCAR):

Body Vibration (tin)

Voltage Drop (Initial Interface):

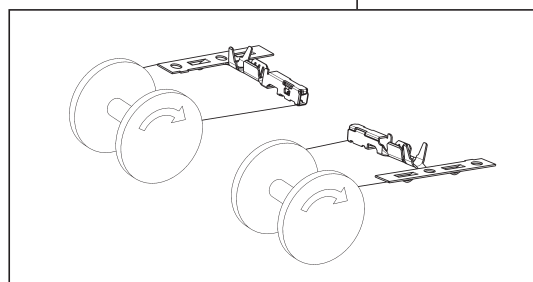
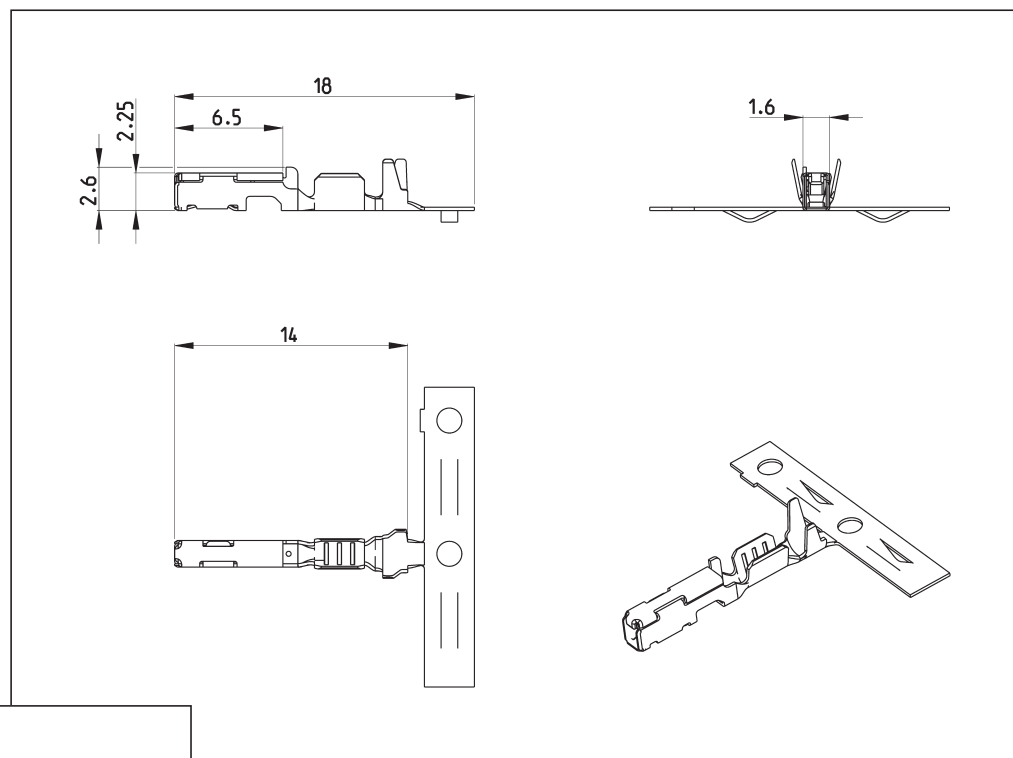
20 Milliohms maximum

Product Specification:

108-2296

Application Specification:

114-13183



Top Flag Orientation

Wire Size Range		Wire Insulation Diameter (mm)	Base Finish	Material	Part Number Receptacle Contact	Reeling Direction
(mm ²)	(AWG)					
0.13	26	0.85–1.05	Pre-Tin	Phoshor Bronze	1924955-5	Detail A
0.22–0.35	24–22	1.10–1.40	Pre-Tin	Phoshor Bronze	1924955-6	
0.35–0.50	20–22	1.50–1.85	Pre-Tin	Phoshor Bronze	1924955-1	
0.75	18	1.60–2.06	Pre-Tin	Phoshor Bronze	1924955-2	
0.13	26	0.85–1.05	Pre-Tin	Phoshor Bronze	1924955-7	Detail B*
0.22–0.35	24–22	1.10–1.40	Pre-Tin	Phoshor Bronze	1924955-8	
0.35–0.50	20–22	1.50–1.85	Pre-Tin	Phoshor Bronze	1924955-3	
0.75	18	1.60–2.06	Pre-Tin	Phoshor Bronze	1924955-4	

*) Reeled for Tyco Electronics brand applicators.

Note: All Part Numbers are RoHS and ELV compliant.

Receptacle Contacts (Sealed and Unsealed 2.54 Centerline Applications)

Technical Features

Terminal Bend Strength:

4 N load

Temperature Classification

(per GMW3191, T3):

–40° to +125 °C (tin)

Vibration (per GMW3191, V1):

Body Vibration

Voltage Drop (Initial Interface):

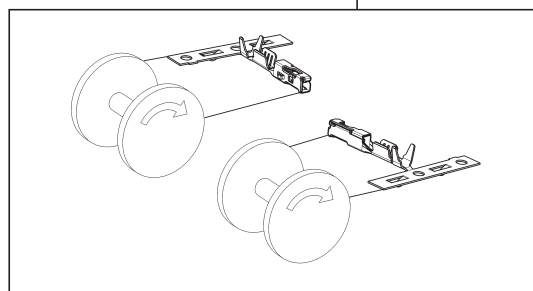
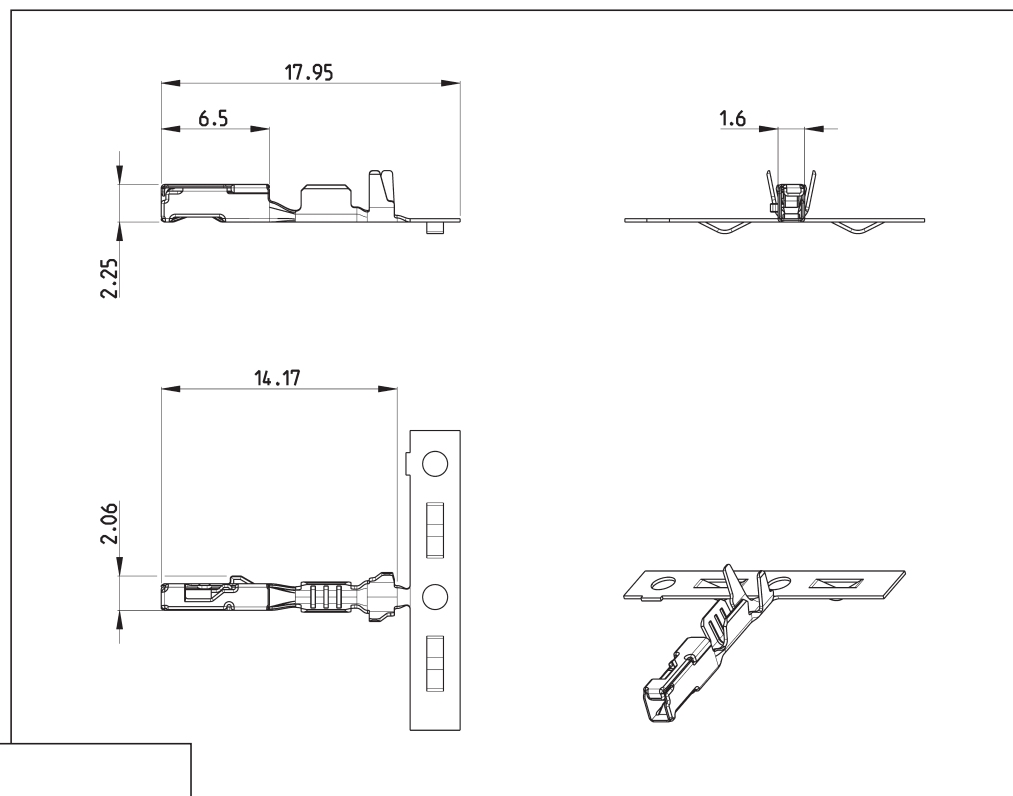
15 Milliohms maximum

Product Specification:

N/A

Application Specification:

114-13183



Side Orientation

Wire Size Range		Wire Insulation Diameter (mm)	Base Finish	Material	Part Number Receptacle Contact	Reeling Direction
(mm ²)	(AWG)					
0.35–0.50	20–22	1.50–1.85	Pre-Tin	CuNiSi	2035170-1	Detail A*
0.75	18	1.60–2.06	Pre-Tin	CuNiSi	2035170-2	
0.35–0.50	20–22	1.50–1.85	Pre-Tin	CuNiSi	2035170-5	Detail B
0.75	18	1.60–2.06	Pre-Tin	CuNiSi	2035170-6	
0.35–0.50	20–22	1.50–1.85	Pre-Tin	CuNiSi	2098165-1**	Detail A*
0.75	18	1.60–2.06	Pre-Tin	CuNiSi	2098165-2**	
0.35–0.50	20–22	1.50–1.85	Pre-Tin	CuNiSi	2098165-3**	Detail B
0.75	18	1.60–2.06	Pre-Tin	CuNiSi	2098165-4**	

*) Reeled for Tyco Electronics brand applicators.

**) High Normal Force (350 g).

Note: All Part Numbers are RoHS and ELV compliant.

Receptacle Contacts (0.64 x 0.80 mm Wire-to-Wire Blade Sealed and Unsealed Applications)

Technical Features

Terminal Bend Strength:

4 N load

Maximum Current Rating:

9.0 amps – 18 AWG,
30 °C T-rise free air

Temperature Classification (per USCAR):

–40° to +100 °C (tin)

Vibration (per USCAR):

Body Vibration

Voltage Drop (Initial Interface):

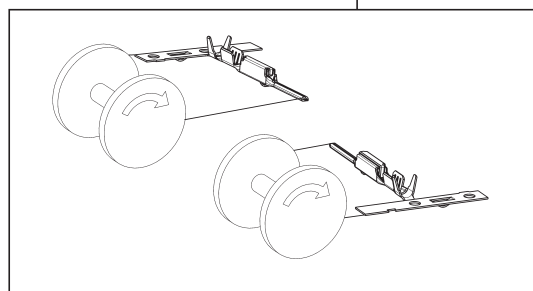
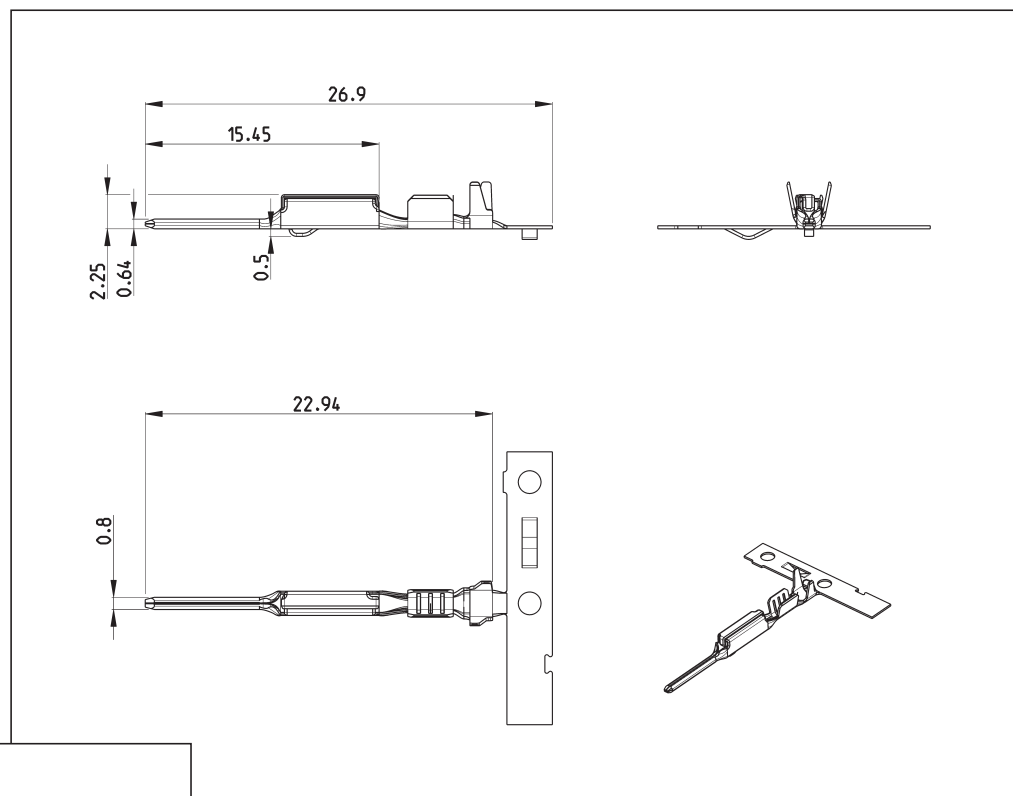
20 Milliohms maximum

Product Specification:

108-2296-1

Application Specification:

114-13183



Wire Size Range		Wire Insulation Diameter (mm)	Base Finish	Material	Part Number Receptacle Contact	Reeling Direction
(mm ²)	(AWG)					
0.13	26	0.85–1.05	Pre-Tin	–	1924968-5	Detail A
0.22–0.35	24–22	1.10–1.40	Pre-Tin	–	1924968-6	
0.35–0.50	20–22	1.50–1.85	Pre-Tin	–	1924968-1	
0.75	18	1.60–2.06	Pre-Tin	–	1924968-2	
0.13	26	0.85–1.05	Pre-Tin	–	1924968-7	Detail B*
0.22–0.35	24–22	1.10–1.40	Pre-Tin	–	1924968-8	
0.35–0.50	20–22	1.50–1.85	Pre-Tin	–	1924968-3	
0.75	18	1.60–2.06	Pre-Tin	–	1924968-4	

*) Reeled for Tyco Electronics brand applicators.

Note: All Part Numbers are RoHS and ELV compliant.

Unsealed Connector System

Technical Features

No. of Positions:

16 Positions

Housing Materials:

Plug: Glass filled Nylon

Wire Size Range:

18–22 AWG

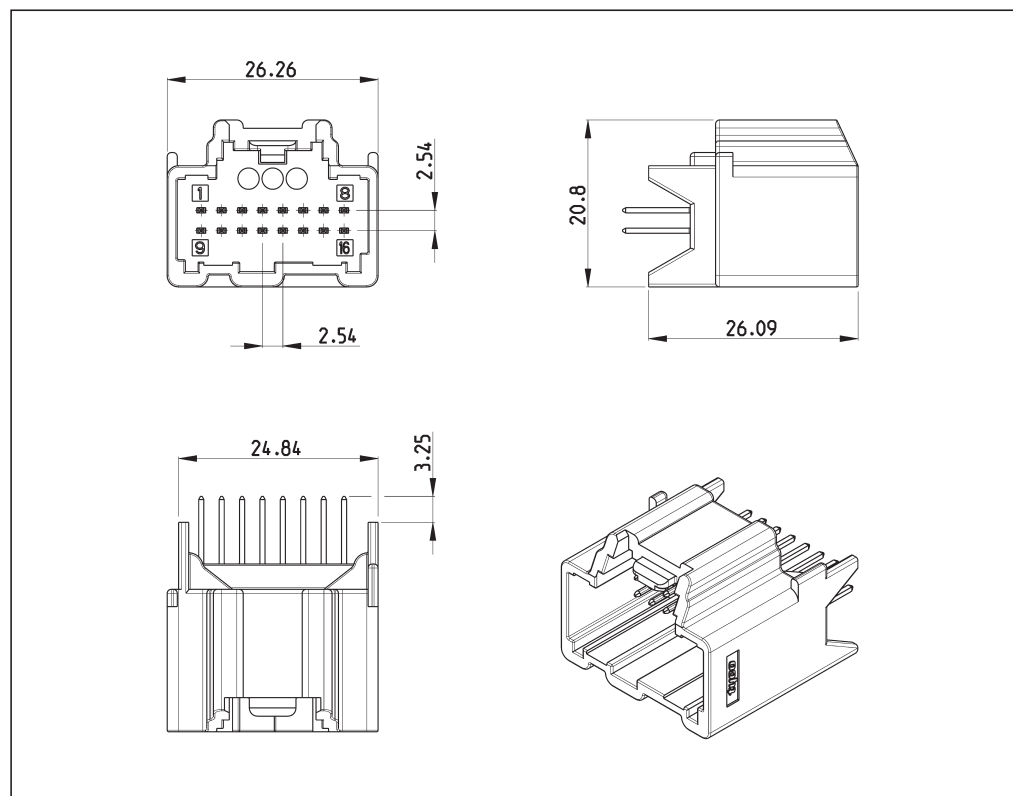
Instruction Sheet:

408-10121

*Receptacle housing GET
Interface with optional CPA
(Front Loaded TPA)*

*Accepts Tyco Electronics
Generation Y 0.64 mm bottom
orientation receptacle contact
ONLY*

Optional keying available



No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Cover	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
16	C	Black	1456867-3	–	–	–	–	–	1456819-3

Note: All Part Numbers are RoHS and ELV compliant.

Unsealed Connector System

Technical Features

No. of Positions:

20 Positions

Housing Materials:

Plug: Glass filled Nylon

Wire Size Range:

18–22 AWG

Instruction Sheet:

408-8599

Receptacle housing, USCAR interface with optional CPA (Front Loaded TPA)

Accepts Tyco Electronics Generation Y 0.64 mm top or bottom orientation receptacle contact.

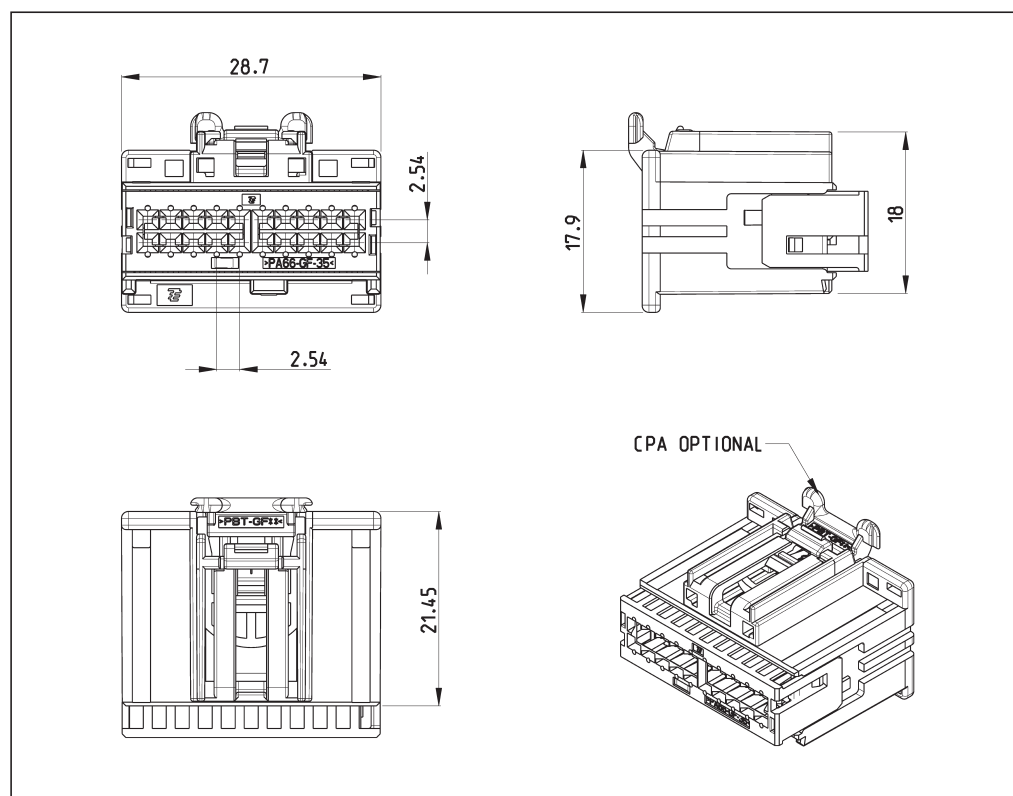
Application Spec 114-13183

Optional keying available

Mating USCAR Interface:

064-4-020-2-201

www.ewcap.uscarteams.org



No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Cover	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
20	A	Black	1924906-1	–	–	–	–	–	1776669-1 (Board Locks)
									1438988-1 (Screw Mount)
									1438981-1 (SMT)
20	A	Black	1924906-7 (CPA)	–	–	–	–	–	1776669-1 (Board Locks)
									1438988-1 (Screw Mount)
									1438981-1 (SMT)

Note: All Part Numbers are RoHS and ELV compliant.

Unsealed Connector System (Hybrid 0.64 mm / 2.8 mm Connector)

Technical Features

No. of Positions:

8 (4 + 4) Positions

Housing Materials:

Plug: Glass filled Nylon

Wire Size Range:

See below

Qualification Test Report:

501-699

Product Specification:

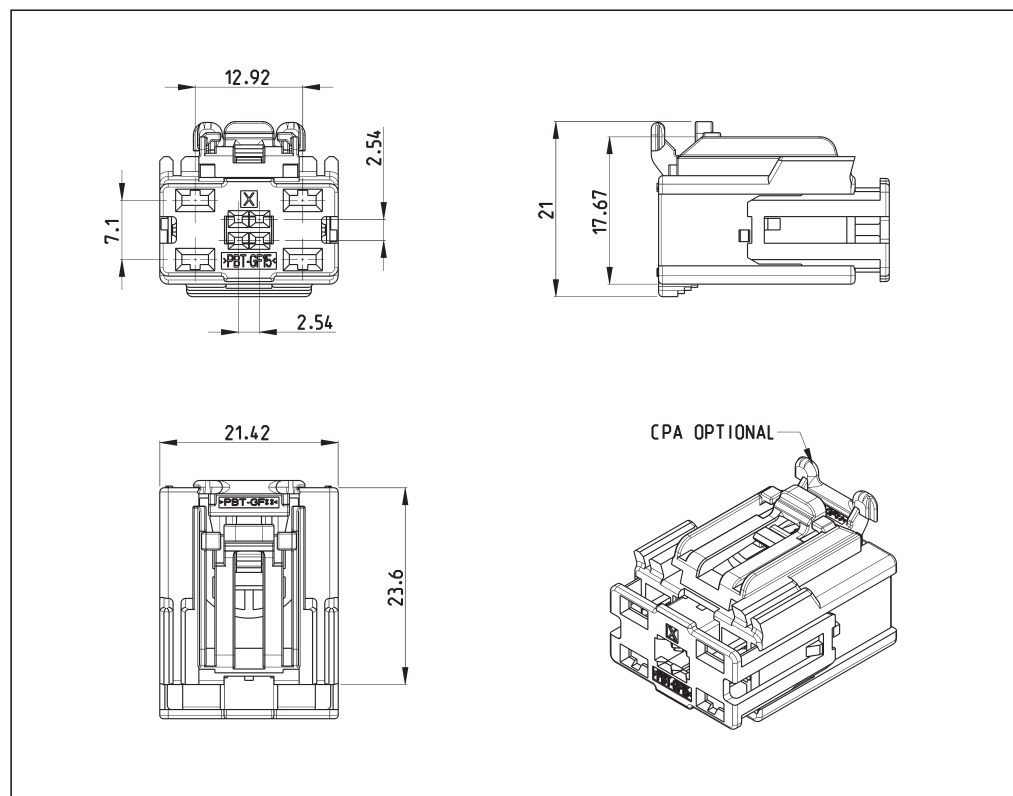
108-2400

Instruction Sheet:

408-10134, 408-10305

*Accepts Tyco Electronics
 Generation Y 0.64 mm top
 orientation receptacle contact.
 18-22 AWG Application Spec
 114-13183*

*Accepts Tyco Electronics 2.8 mm
 receptacle contact (1326030).
 12-22 AWG Application Spec
 114-13013*



No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Cover	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
8	A	Black	1456471-1	—	—	—	—	—	1456468-1

Note: All Part Numbers are RoHS and ELV compliant.

Unsealed Connector System (Hybrid 0.64 mm / 2.8 mm Connector)

Technical Features

No. of Positions:

13 (4 + 9) Positions

Housing Materials:

Glass filled PBT

Wire Size Range:

See below

Instruction Sheet:

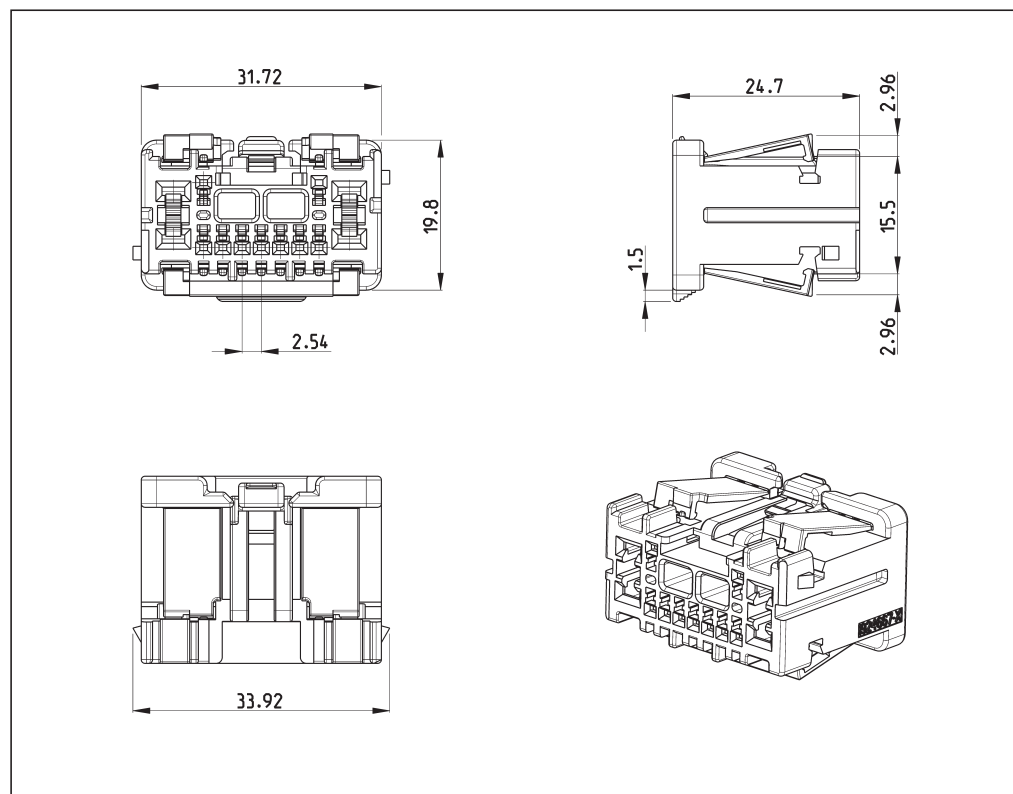
408-10292

*Accepts Tyco Electronics
Generation Y 0.64 mm Terminal
Top Orientation Only.
18-22 AWG. Application Spec
114-13183*

*Accepts Tyco Electronics 2.8 mm
receptacle contact (1326030).
12-22 AWG Application Spec
114-13013*

Mating Interface:

1924667-INT



No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Cover	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
13	A	Black	1924667-1	–	–	–	–	–	–

Note: All Part Numbers are RoHS and ELV compliant.

Unsealed Connector System (Hybrid 0.64 mm / 2.8 mm Connector)

Technical Features

No. of Positions:

21 (4 + 17) Positions

Housing Materials:

Glass filled PBT

Wire Size Range:

See below

Instruction Sheet:

408-10292

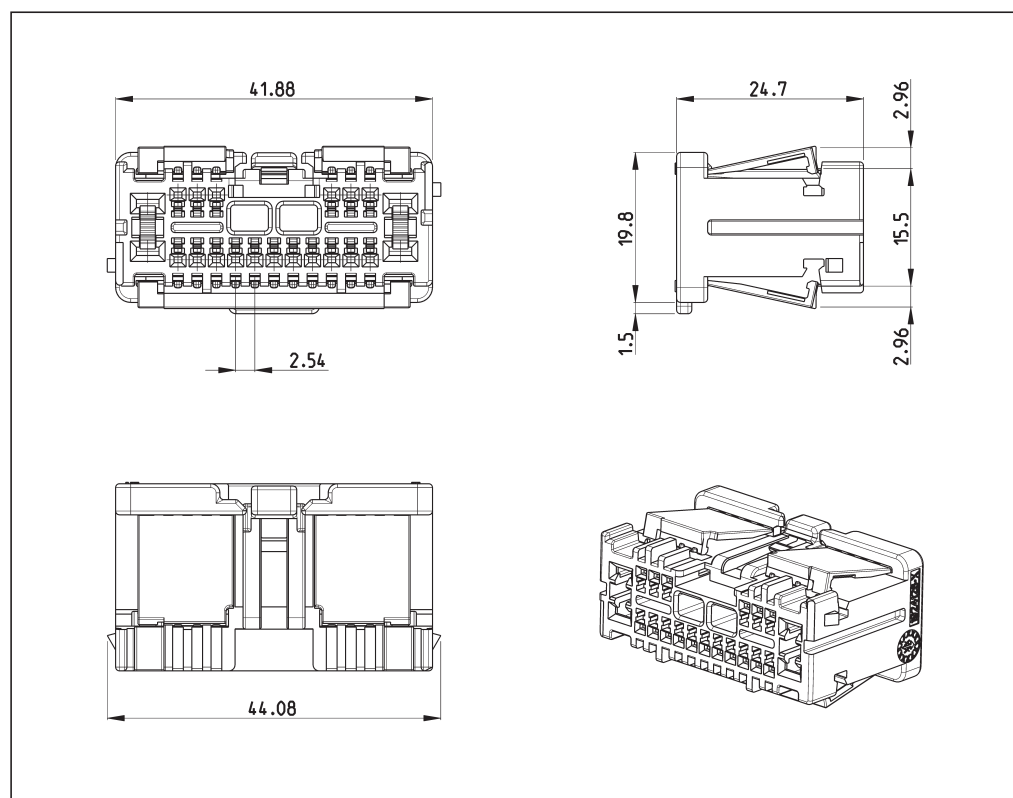
*Accepts Tyco Electronics
Generation Y 0.64 mm top
orientation receptacle contact
ONLY.*

*18-22 AWG. Application Spec
114-13183*

*Accepts Tyco Electronics 2.8 mm
receptacle contact (1326030).
12-22 AWG Application Spec
114-13013*

Mating Interface:

1924126-GEN



No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Cover	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
21	A	Black	1924126-1	—	—	—	—	—	—

Note: All Part Numbers are RoHS and ELV compliant.

Sealed Connector System

Technical Features

No. of Positions:

6 (2 x 3) Positions

Housing Material:

Glass filled Nylon

Wire Size Range:

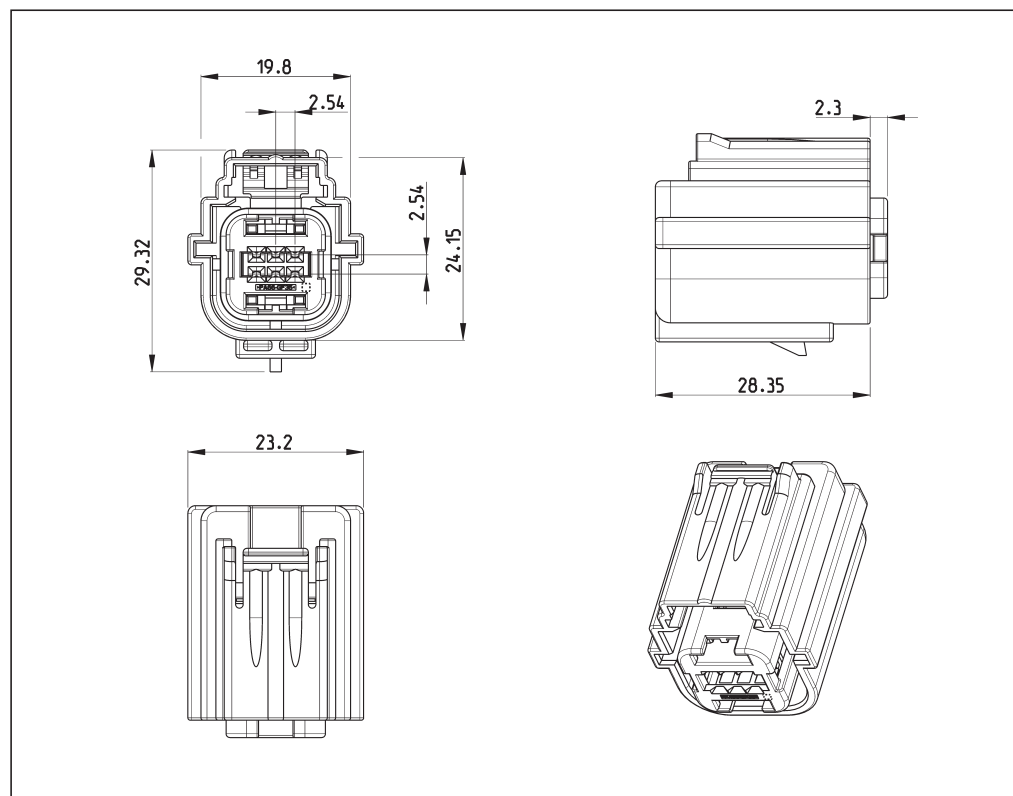
20–22 AWG

Instruction Sheet:

408-10178

*Accepts Tyco Electronics
Generation Y 0.64 mm side
orientation receptacle contact
ONLY.*

*18-22 AWG. Application Spec
114-13183*



No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Cover	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
6	A	Gray	1924211-1 Side orientation				1924212-1		

Note: All Part Numbers are RoHS and ELV compliant.

Sealed Connector System (Hybrid 0.64 mm / 2.8 mm Connector)

Technical Features

No. of Positions:

7 (2 + 5) Positions

Housing Materials:

Glass filled Nylon

Wire Size Range:

See below

Instruction Sheet:

408-10106

Accepts Tyco Electronics
 Generation Y 0.64 mm bottom
 orientation receptacle contact
 ONLY.

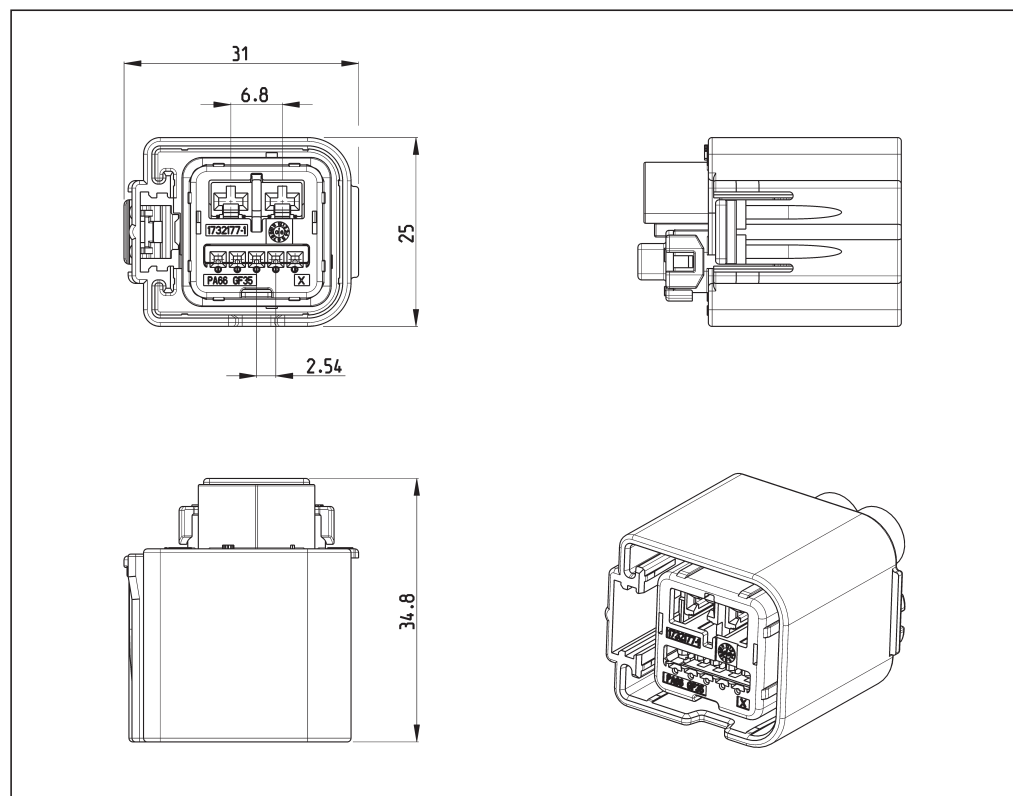
20-22 AWG. Application Spec
 114-13183

Accepts Tyco Electronics
 2.8 mm receptacle contact
 (1326032) with wire seal.
 12-22 AWG. Application Spec
 114-13013

Mating USCAR Interface:

999-S-007-2-A01

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No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Cover	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
7	A	Black	1732175-1						
			1732175-1 (all circuits open)						
			1732175-2 (circuit 7 blocked)	—	—	—	—	—	—
			1732175-3 (circuit 5 blocked)						

Note: All Part Numbers are RoHS and ELV compliant.

Terminal Carrier

Technical Features

No. of Positions:

18, 26, 36 Positions

Housing Materials:

Glass Filled Nylon

Wire Size Range:

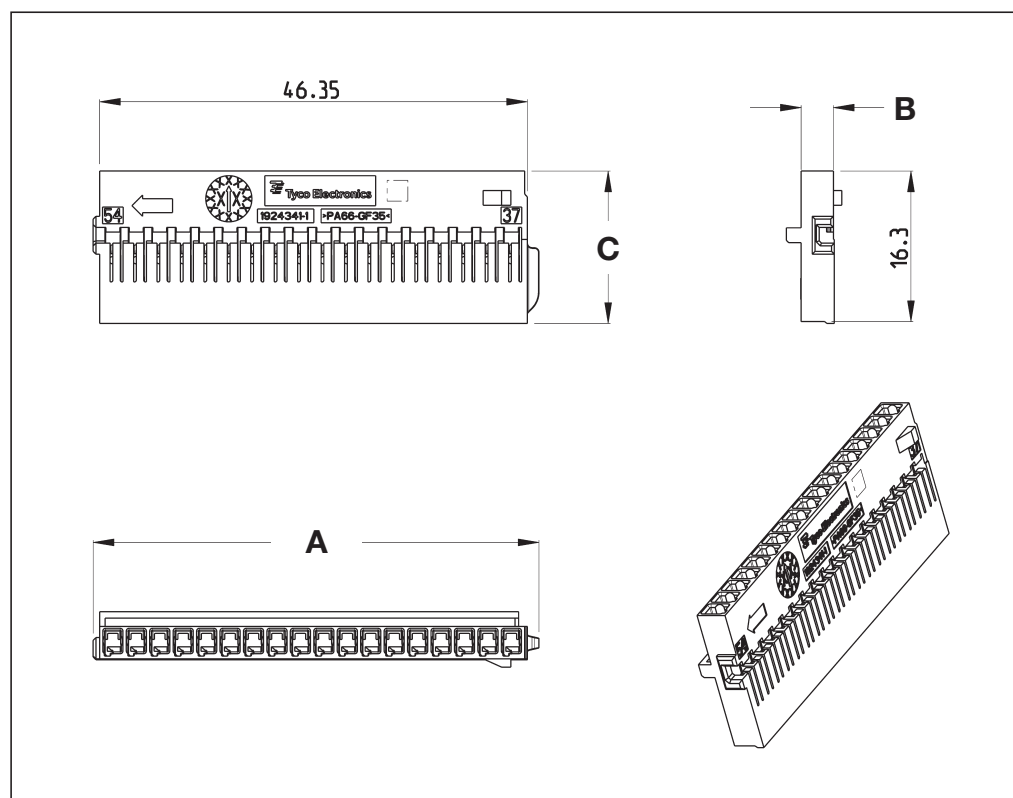
18–22 AWG

Instruction Sheet:

408-10195

*Accepts Tyco Electronics
Generation Y 0.64 mm top
orientation receptacle contact
ONLY.*

*18-22 AWG. Application Spec
114-13183*



No. of Positions	Color	Key	Part Number	Dimensions (mm)		
				A	B	C
18 used with 54p LAC Shield Assembly	Black	A	1924341-1	47.6	3.6	16.5
26 used with 52p LAC Shield Assembly	Black	A	1924136-1	33.7	7.1	19.8
26 used with 52p LAC Shield Assembly	Gray	B	1924136-2	33.7	7.1	19.8
26 used with 26p Hand Mate Plug	Black	C	1924136-3	33.7	7.1	19.8
36 used with 54p LAC Shield Assembly	Black	A	1924340-1	47.6	6.8	16.5

Note: All Part Numbers are RoHS and ELV compliant.

Lever Assist Connector (LAC) Shield with Integrated Wire Routing

Technical Features

No. of Positions:

26 Positions

Housing Materials:

Glass Filled Nylon

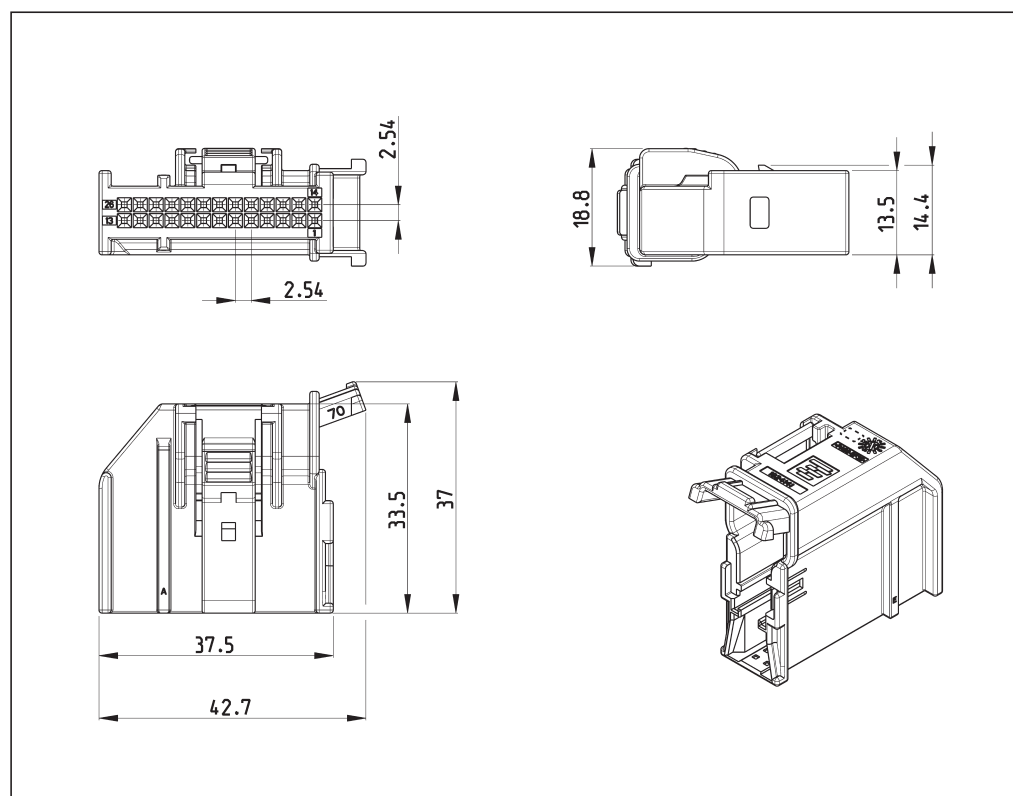
Wire Size Range:

18–22 AWG

Instruction Sheet:

408-10195

Used with 26p terminal carrier
Key C



No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Wire Exit Angle	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
26	A-E	Black	1924141-1	70°	–	–	–	1456549-1	1924678-1
	B-E	Gray	1924141-2	70°	–	–	–	1456549-2	1924678-2
	B-F	Blue	1924141-3	70°	–	–	–	1456549-3	1924678-3 / 1924678-4
	A-E	Black	–	45°	–	–	–	1456549-1	1924678-1
	B-E	Gray	–	45°	–	–	–	1456549-2	1924678-2
	B-F	Blue	–	45°	–	–	–	1456549-3	1924678-3 / 1924678-4
	A-E	Black	–	20°	–	–	–	1456549-1	1924678-1
	B-E	Gray	–	20°	–	–	–	1456549-2	1924678-2
	B-F	Blue	–	20°	–	–	–	1456549-3	1924678-3 / 1924678-4
	A-E	Natural	1-1924141-0	70°	–	–	–	1456549-1	1924678-1

Note: All Part Numbers are RoHS and ELV compliant.

Lever Assist Connector (LAC) Shield with Integrated Wire Routing

Technical Features

No. of Positions:

52 Positions

Housing Materials:

Glass Filled Nylon

Wire Size Range:

18–22 AWG

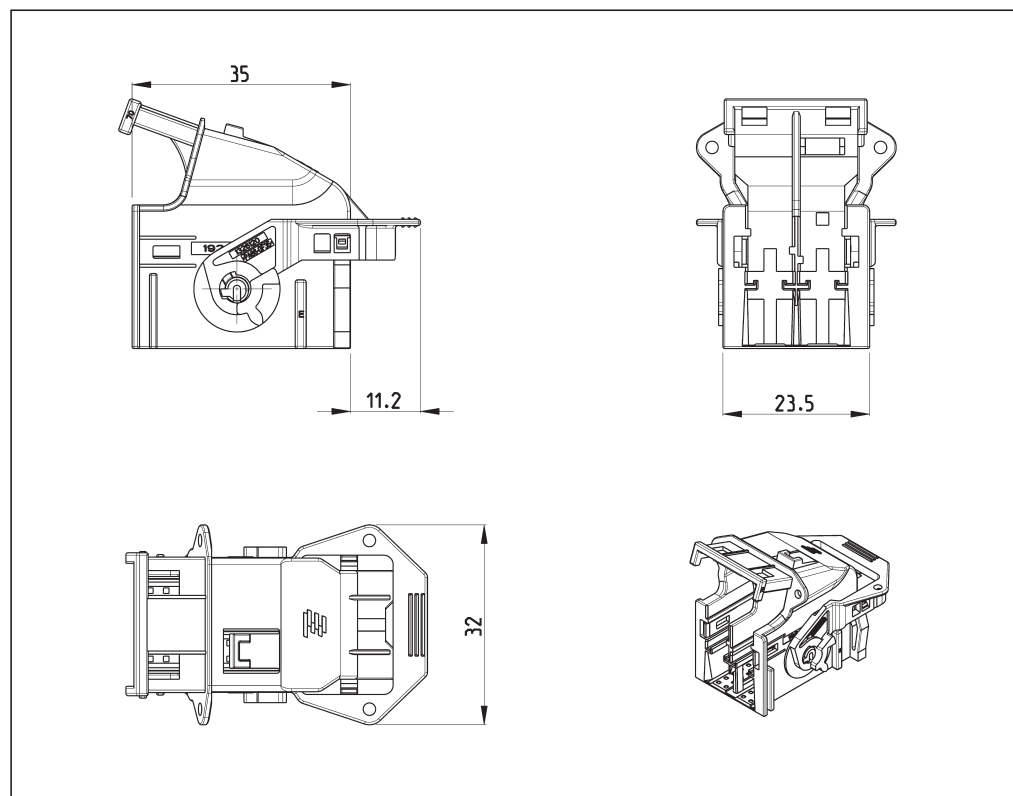
Instruction Sheet:

408-10195

Used with two 26p terminal carriers, Key A & B

Mating Interface:

1438985-GEN



No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Wire Exit Angle	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
52	A-E	Black	1924346-1	70°	-	-	-	-	-
	B-E	Gray	1924346-2	70°					
	B-F	Blue	1924346-3	70°					
	A-E	Black	1924346-4	45°					
	B-E	Gray	1924346-5	45°					
	B-F	Blue	1924346-6	45°					

Note: All Part Numbers are RoHS and ELV compliant.

Lever Assist Connector (LAC) Shield with Integrated Wire Routing

Technical Features

No. of Positions:

54 Positions

Housing Materials:

Glass Filled Nylon

Wire Size Range:

18–22 AWG

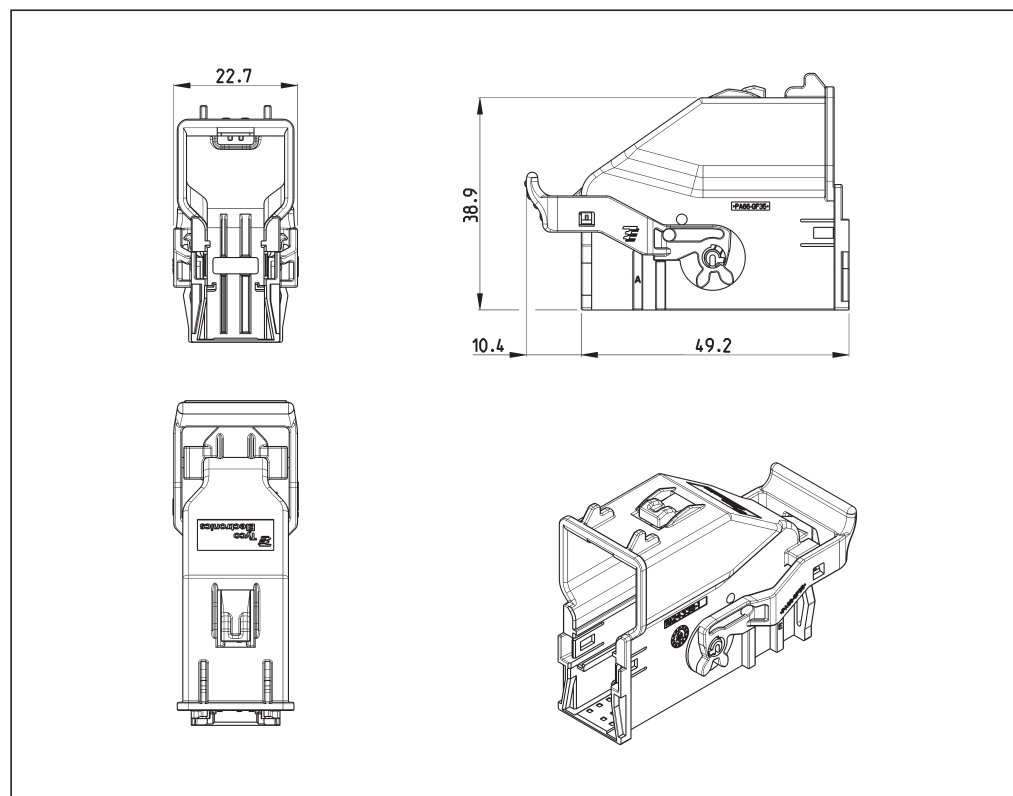
Instruction Sheet:

408-10195

Used with 18p and 36p terminal carrier

Mating Interface:

1924337-MXCU



No. of Pos.	Keying Options	Housing Color	Part Numbers						
			Receptacle Housing	Wire Exit Angle	Locking Device	Cover and Lever	Mating Pin Housing	Mating PCB Header Right-Angle	Mating PCB Header Vertical
54	A-E	Black	1924337-1	90°	–	–	–	1924342-1	2035239-1
			1-1924337-3	20°	–	–	–	1924342-1	2035239-1

Note: All Part Numbers are RoHS and ELV compliant.